

FIG. 1

09879099 041304  
T04F50 86062360

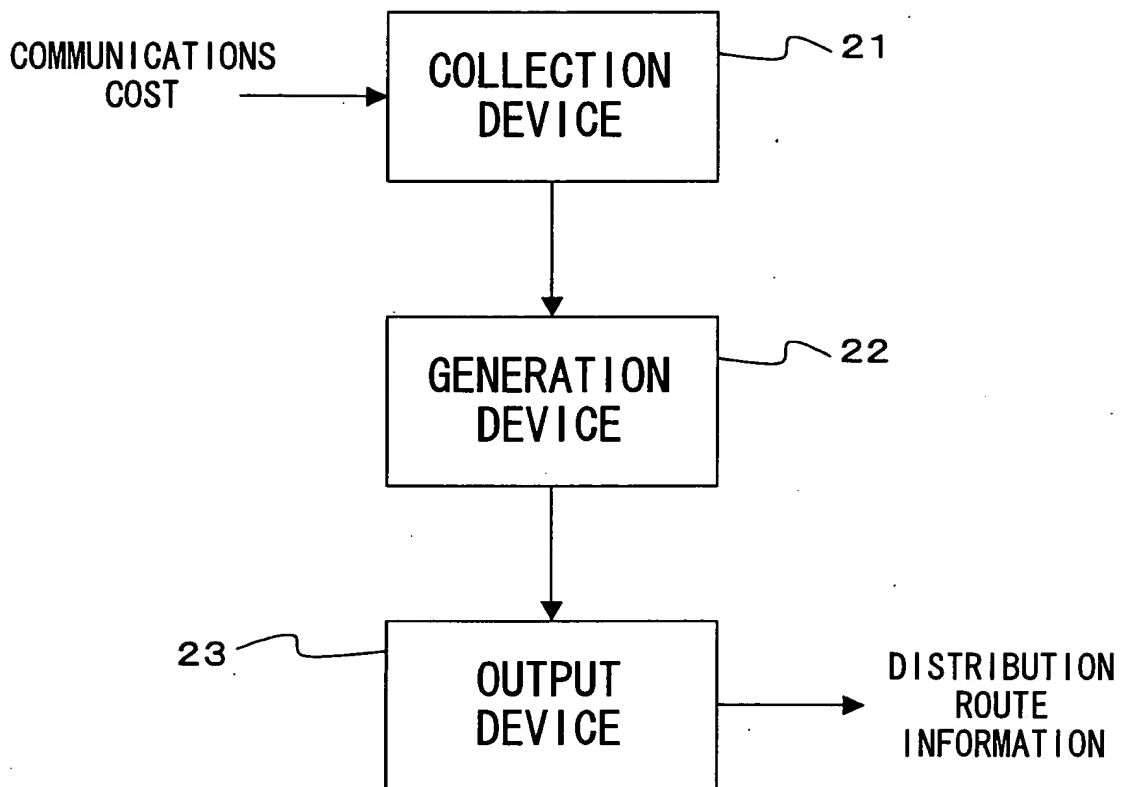


FIG. 2A

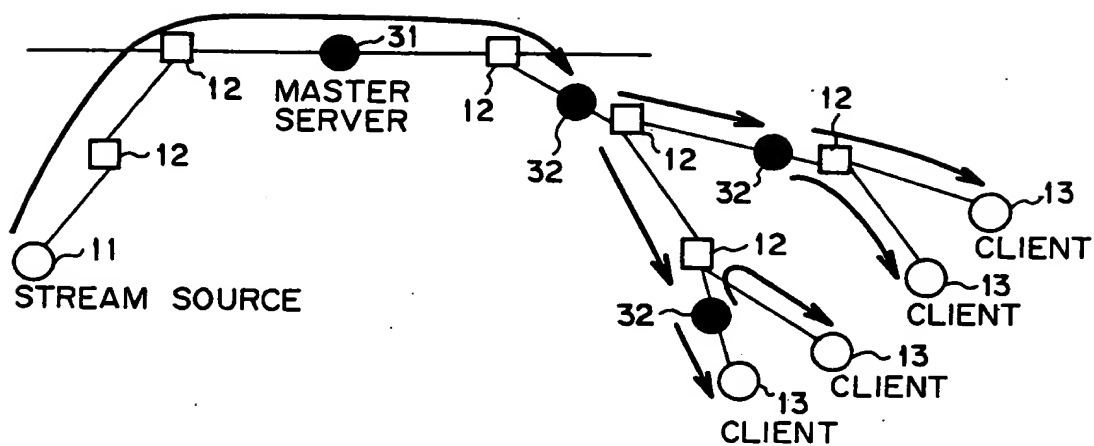


FIG. 2B

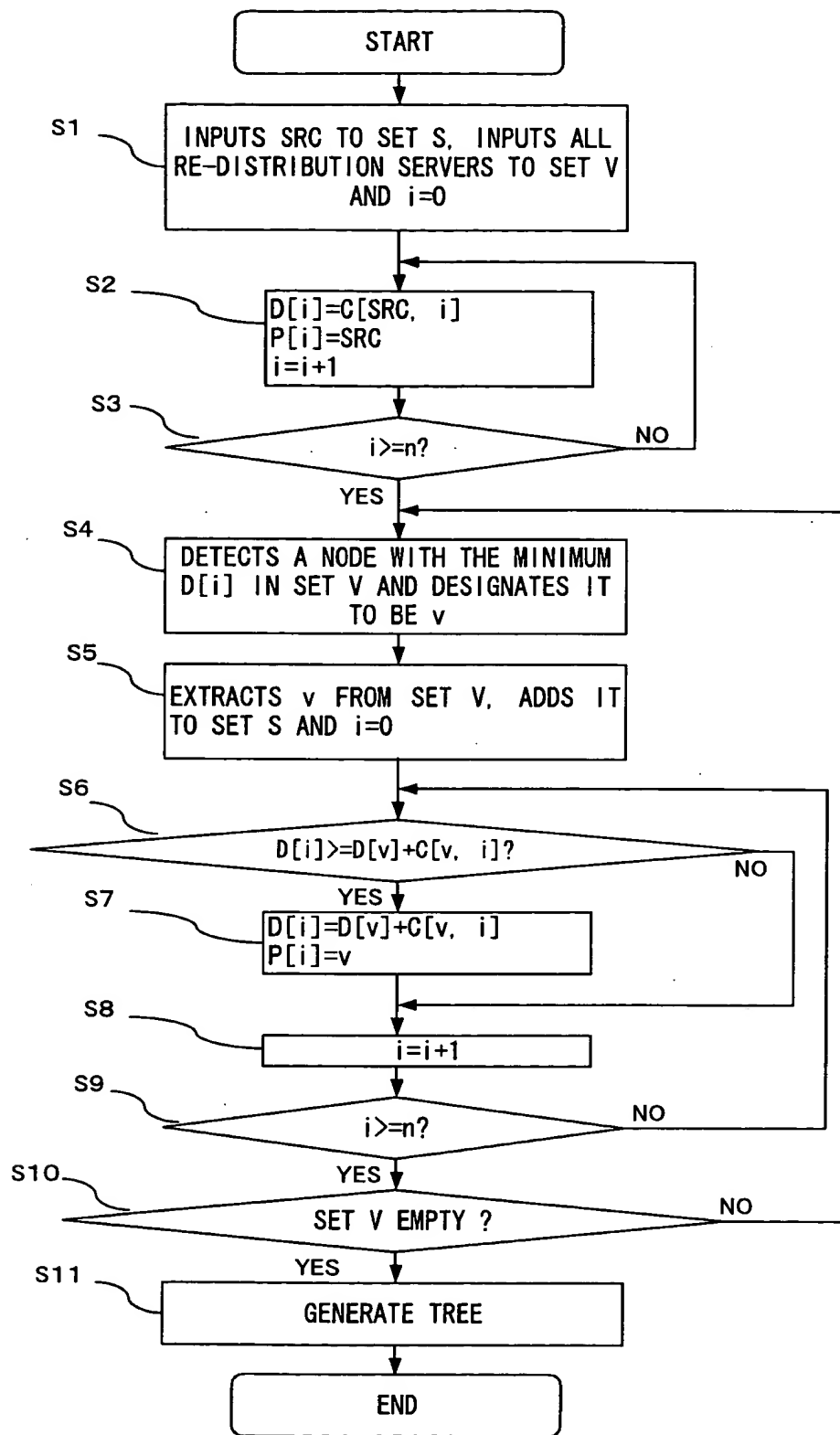


FIG. 3

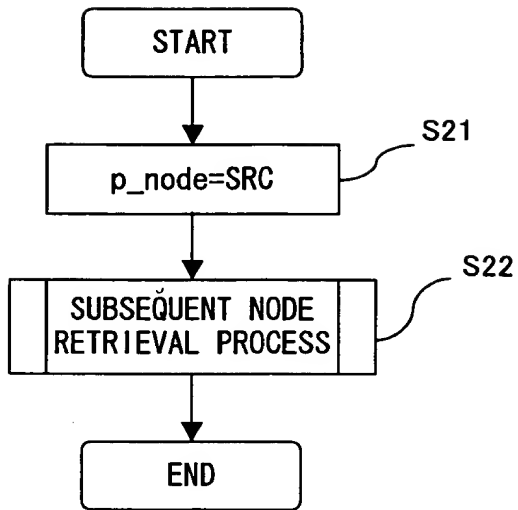


FIG. 4

FIG. 5

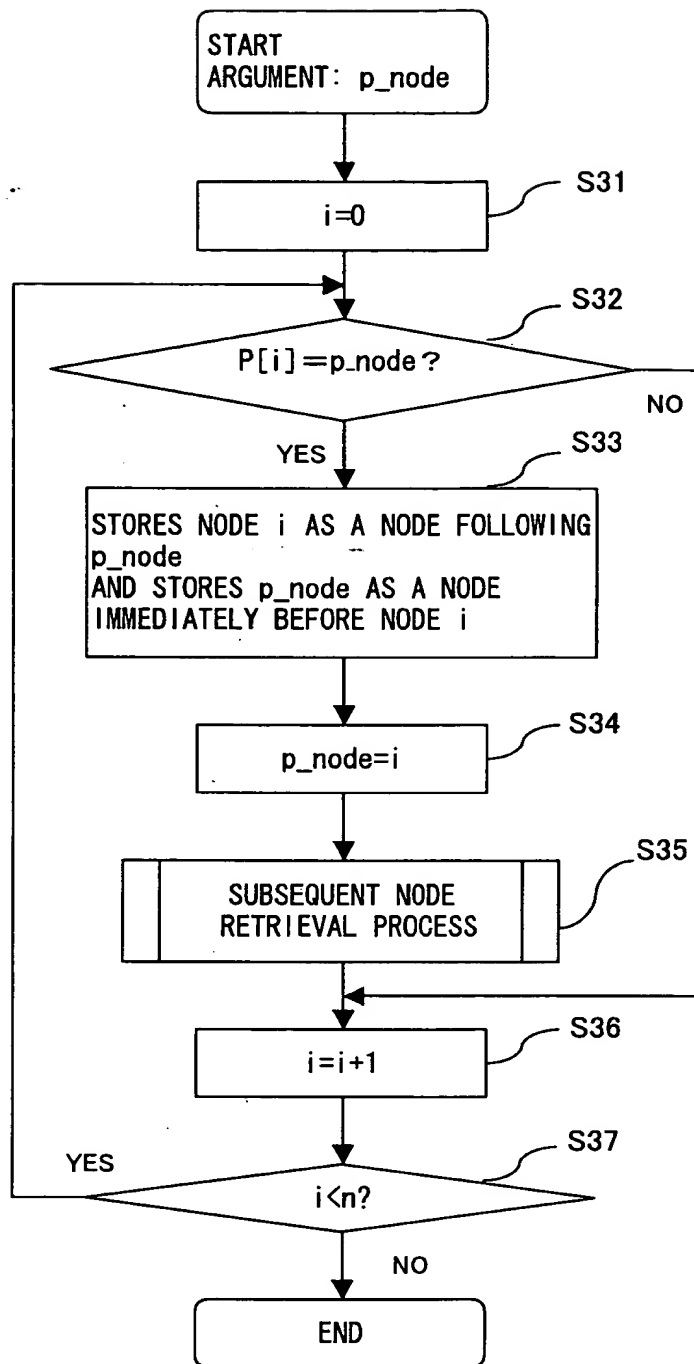


FIG. 5

FIG. 6

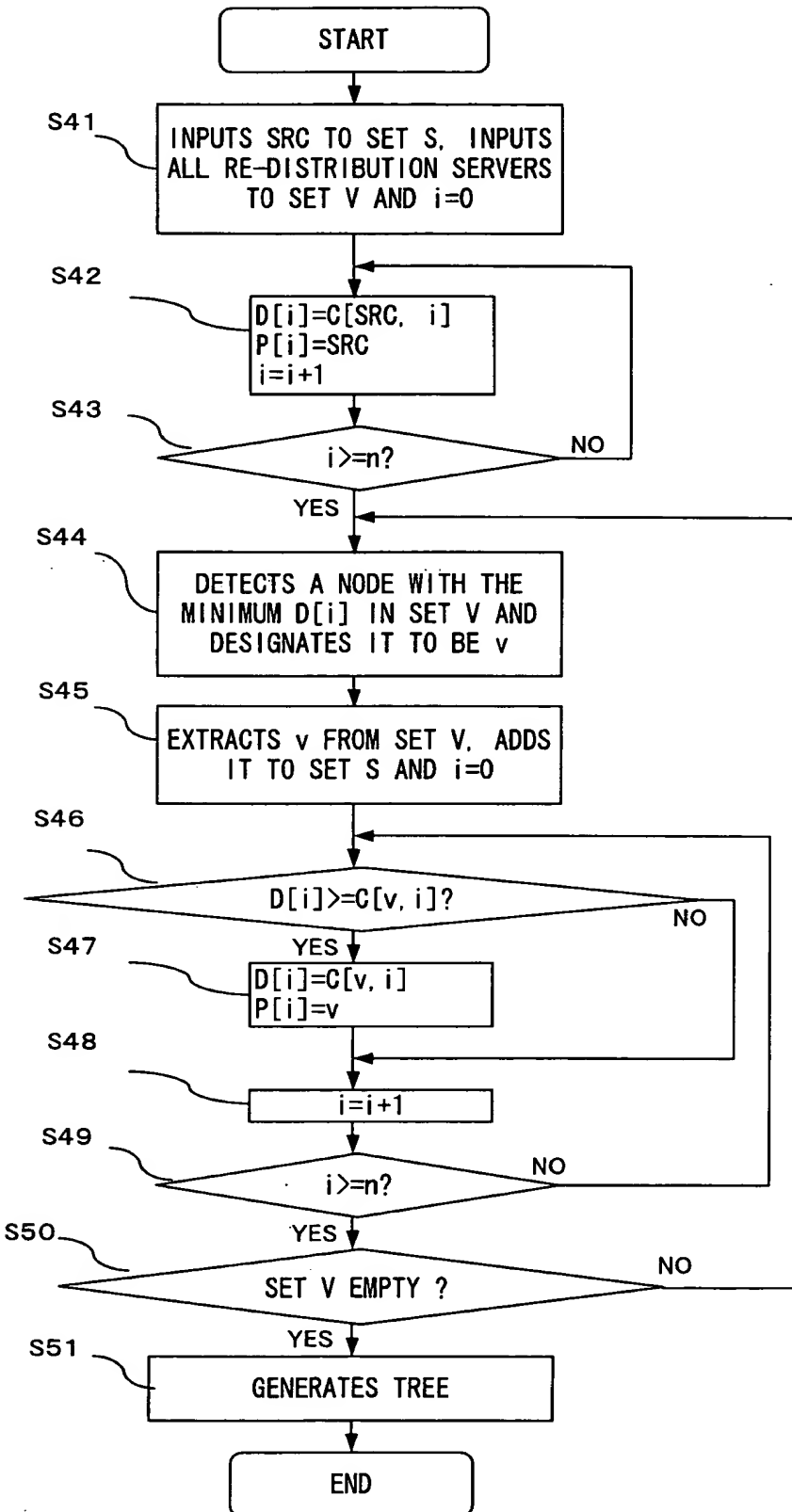


FIG. 7



A diagram illustrating a neural network architecture. It starts with an input node (circle) labeled 11, which connects to a hidden layer node (square) labeled 12. This hidden node connects to an output node (circle) labeled 32. From this output node, a curved arrow points to another hidden node (square) labeled 12. This second hidden node connects to three output nodes (circles) labeled 32. Additionally, a curved arrow points from the second hidden node to a third hidden node (square) labeled 12. This third hidden node connects to two output nodes (circles) labeled 32. Finally, a curved arrow points from the third hidden node to a fourth hidden node (square) labeled 12, which connects to one output node (circle) labeled 32. A long arrow at the top points from left to right, indicating the flow of information.

FIG. 8

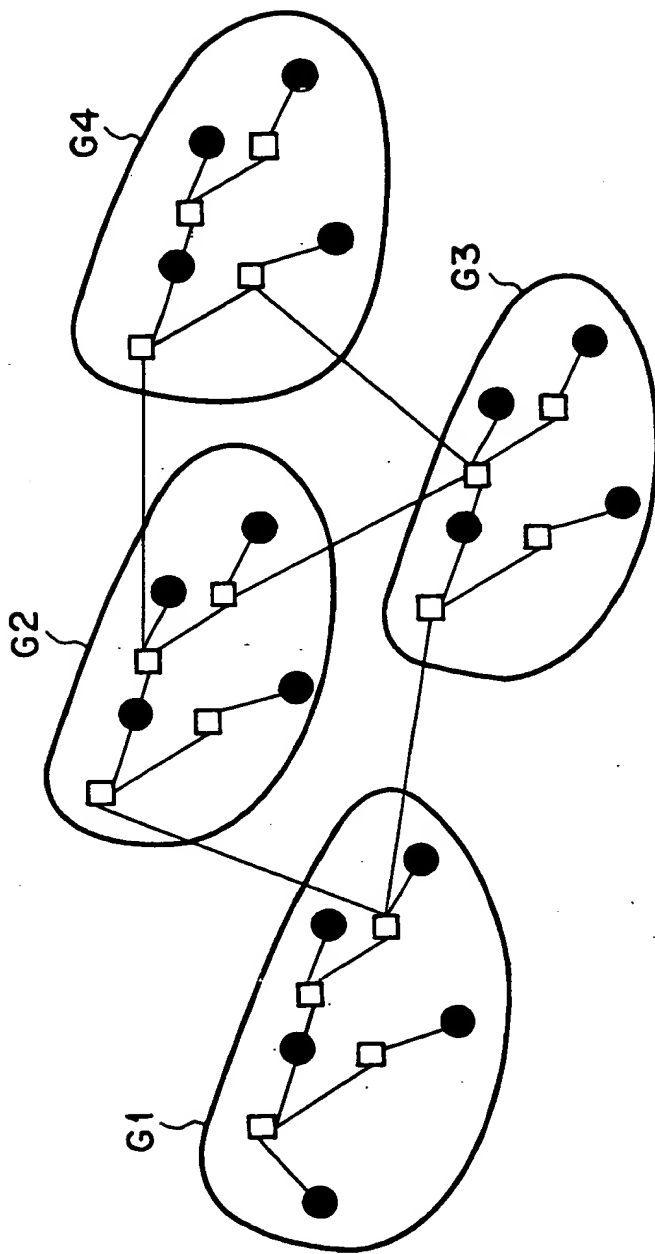


FIG. 9



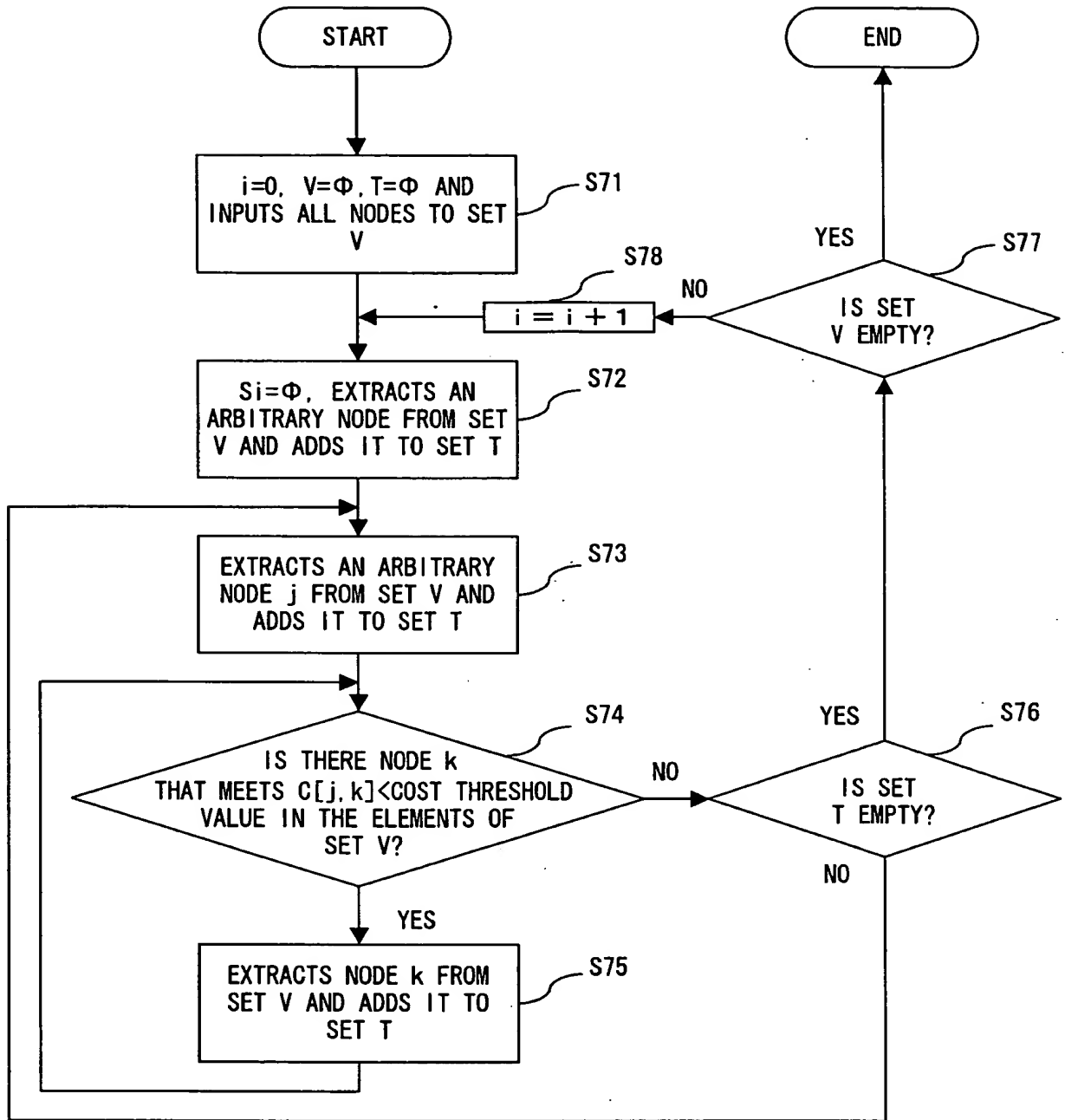


FIG. 11

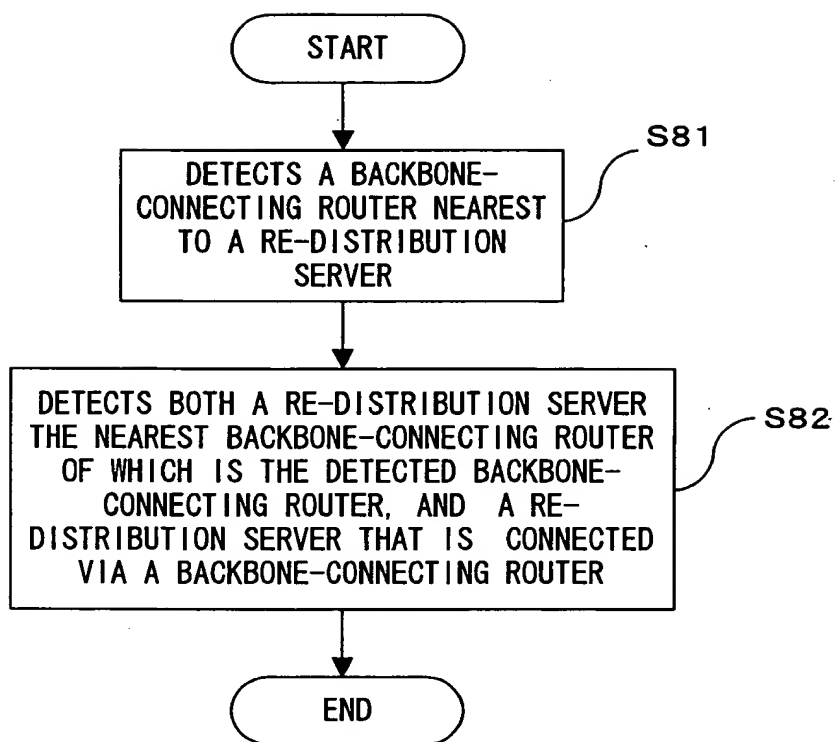


FIG. 12

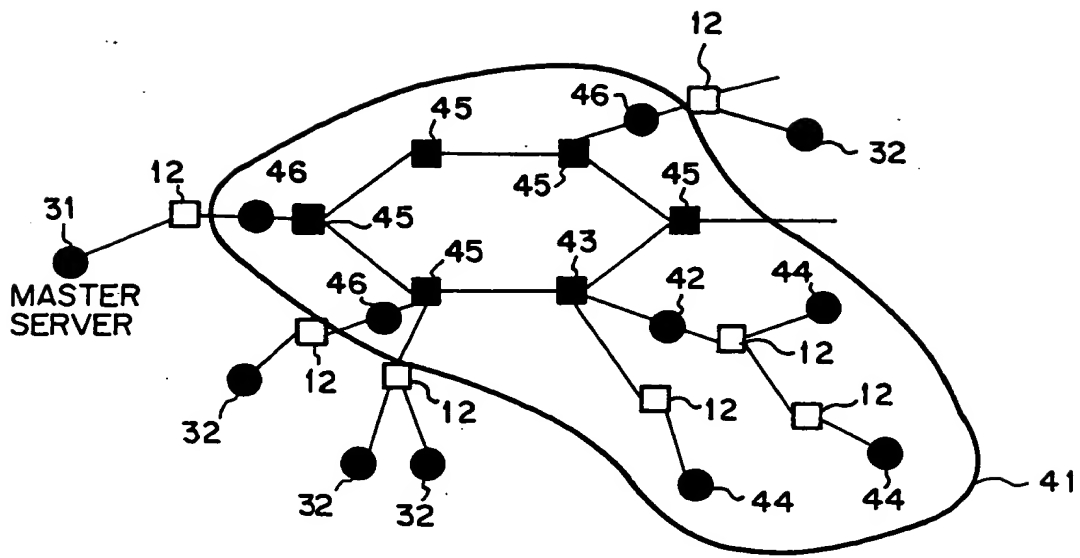


FIG. 13

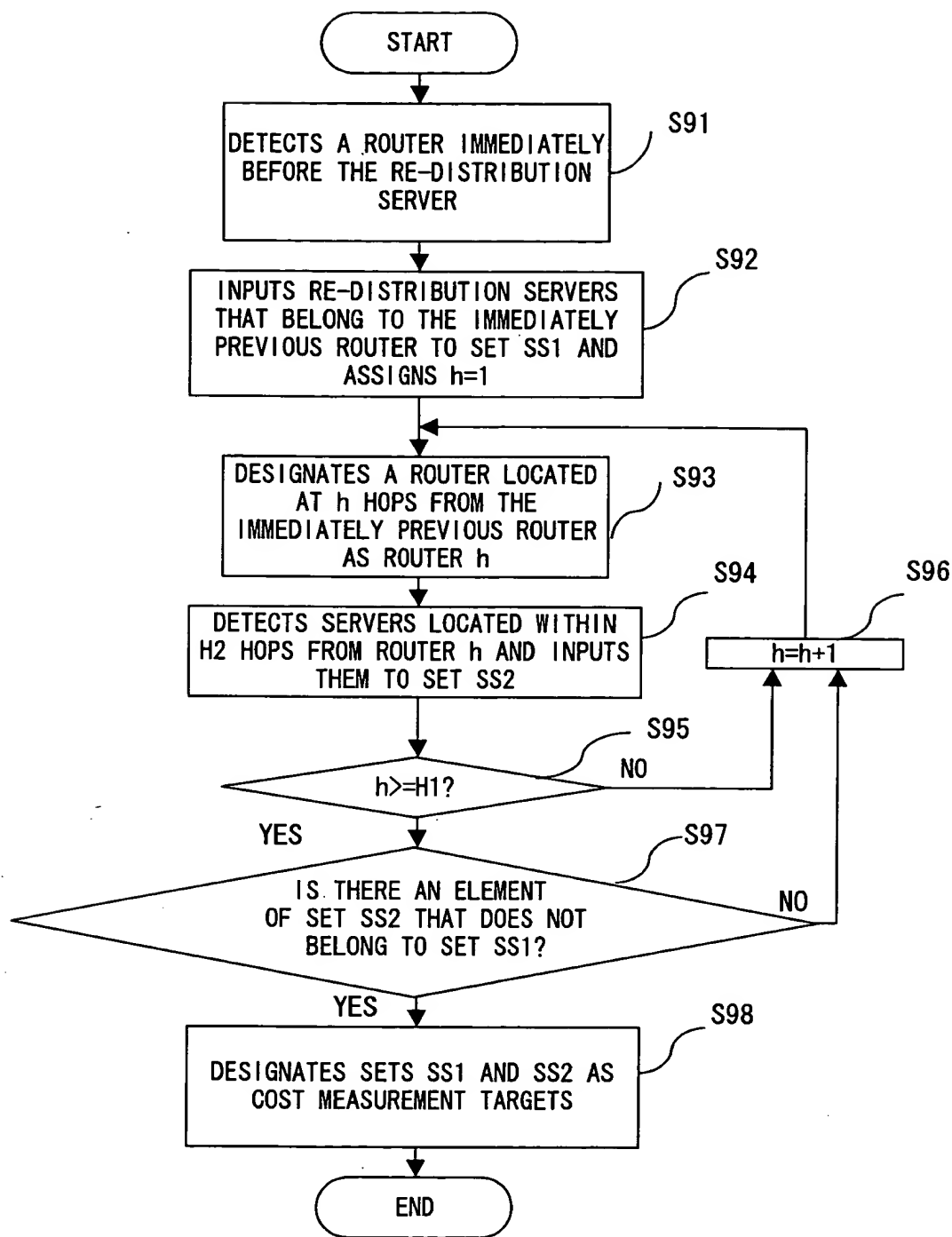


FIG. 14

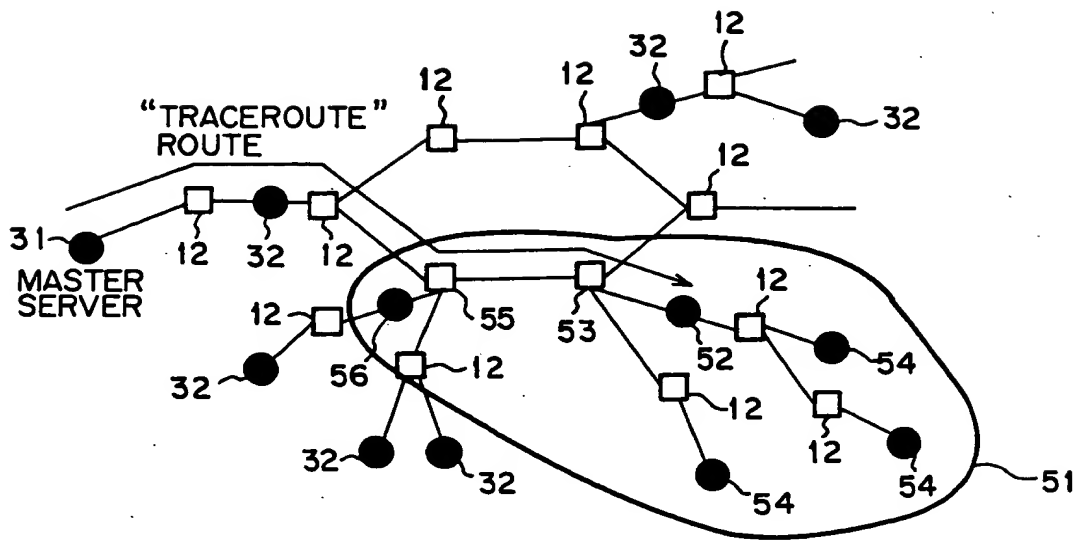


FIG. 15



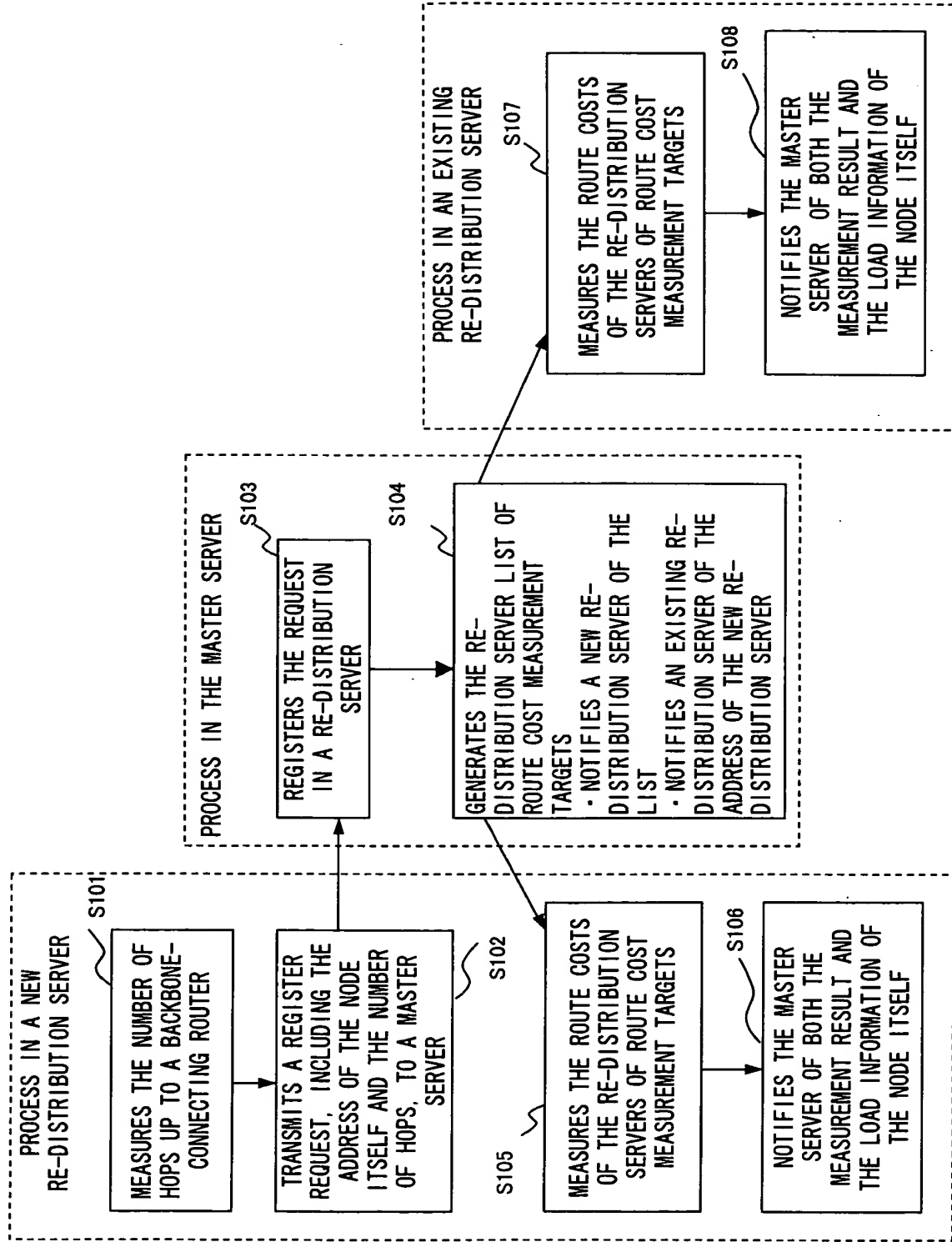


FIG. 16

```
graph TD; subgraph "PROCESS IN A RE-DISTRIBUTION SERVER"; S111[TRANSMITS A REGISTRATION DELETE REQUEST TO A MASTER SERVER]; end; subgraph "PROCESS IN THE MASTER SERVER"; S112["• DELETES INFORMATION ABOUT THE RELEVANT RE-DISTRIBUTION SERVER<br/>• RE-GENERATES AND DISTRIBUTES A DISTRIBUTION ROUTE TREE<br/>• TRANSMITS A DELETE PERMISSION TO THE RELEVANT RE-DISTRIBUTION SERVER"]; end; S111 --> S112; S112 --> S113[STOP THE OPERATION];
```

PROCESS IN A RE-DISTRIBUTION SERVER

S111

TRANSMITS A REGISTRATION DELETE REQUEST TO A MASTER SERVER

PROCESS IN THE MASTER SERVER

S112

- DELETES INFORMATION ABOUT THE RELEVANT RE-DISTRIBUTION SERVER
- RE-GENERATES AND DISTRIBUTES A DISTRIBUTION ROUTE TREE
- TRANSMITS A DELETE PERMISSION TO THE RELEVANT RE-DISTRIBUTION SERVER

S113

STOP THE OPERATION

FIG. 17

```

graph TD
    START([START]) --> S121[RECEIVES DISTRIBUTION ROUTE NOTIFICATION DATA]
    S121 --> S122{ARE THE DATA NEW?}
    S122 -- YES --> S123[SELECTS A PORT AND NOTIFIES AN UPPER-STREAM OF THE PORT]
    S122 -- NO --> S126[TRANSMITS THE DISTRIBUTION ROUTE NOTIFICATION DATA TO A LOWER RE-DISTRIBUTION SERVER]
    S123 --> S124[STORES THE INFORMATION IN A STREAM-ROUTE CORRESPONDENCE TABLE]
    S124 --> S125[SETS BASED ON THE RECEIVED DATA AND STARTS STREAM DISTRIBUTION]
    S125 --> S126
    S126 --> END([END])

```

FIG. 18

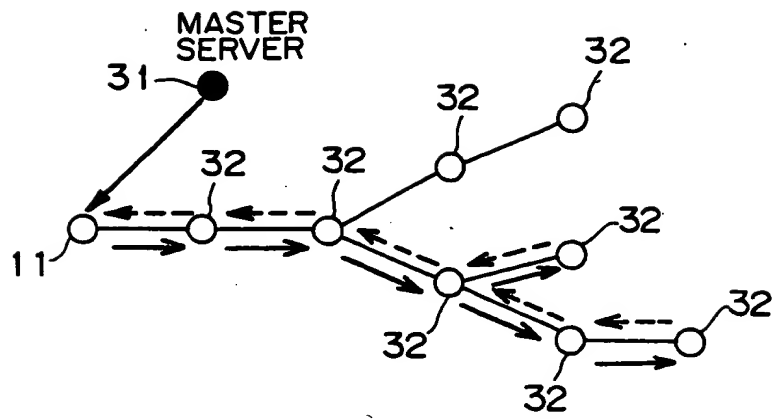


FIG. 19

```

graph TD
    subgraph Client_Process [PROCESS IN A CLIENT]
        Start([START]) --> S131{A CONNECTION-CANDIDATE RE-DISTRIBUTION SERVER KNOWN?}
        S131 -- YES --> S135[REQUESTS A CONNECTION TO THE CONNECTION-CANDIDATE RE-DISTRIBUTION SERVER]
        S131 -- NO --> S132[REQUESTS THE MASTER SERVER TO DISTRIBUTE STREAMING DATA]
        S132 --> S135
        S135 --> S136{IS THERE A STREAM-ROUTE CORRESPONDENCE TABLE OF THE RELEVANT STREAM?}
    end

    subgraph Re_Distribution_Server_Process [PROCESS IN A RE-DISTRIBUTION SERVER]
        S136 -- YES --> S141[REQUESTS THE MASTER SERVER TO PROVIDE A DISTRIBUTION ROUTE TREE]
        S136 -- NO --> S137{IS THE CLIENT THE FIRST CLIENT THAT BELONGS TO THE STREAM?}
        S141 --> S143[DISTRIBUTION ROUTE NOTIFICATION DATA ARE REQUESTED BY THE MASTER SERVER]
        S137 -- YES --> S138[NOTIFIES THE MASTER SERVER OF THE CONNECTION OF A CLIENT]
        S137 -- NO --> S139[STARTS DISTRIBUTING STREAMING DATA]
        S138 --> S139
        S139 --> End([END])
    end

    subgraph Master_Server_Process [PROCESS IN THE MASTER SERVER]
        S132 --> S133[DETERMINES A CONNECTION-CANDIDATE RE-DISTRIBUTION SERVER]
        S133 --> S134[NOTIFIES A CLIENT OF THE CONNECTION-CANDIDATE RE-DISTRIBUTION SERVER]
        S141 --> S142[TRANSMITS DISTRIBUTION ROUTE NOTIFICATION DATA TO THE RE-DISTRIBUTION SERVER]
        S142 --> S143
        S138 --> S140[UPDATES INFORMATION ABOUT THE CLIENT CONNECTION EXISTENCE/NON-EXISTENCE OF A RE-DISTRIBUTION SERVER]
        S140 --> S143
    end

```

FIG. 20

FIG. 21

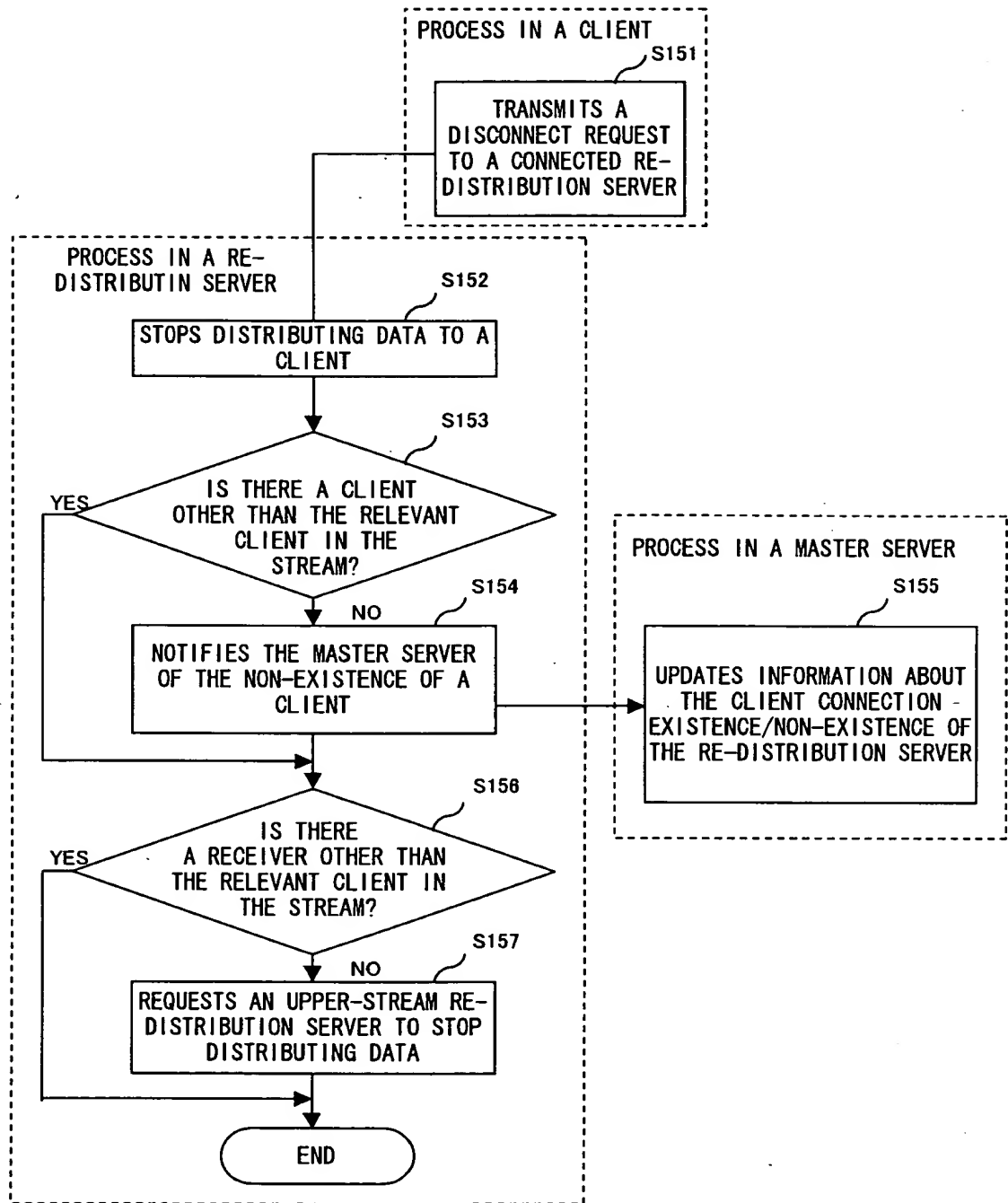


FIG. 21

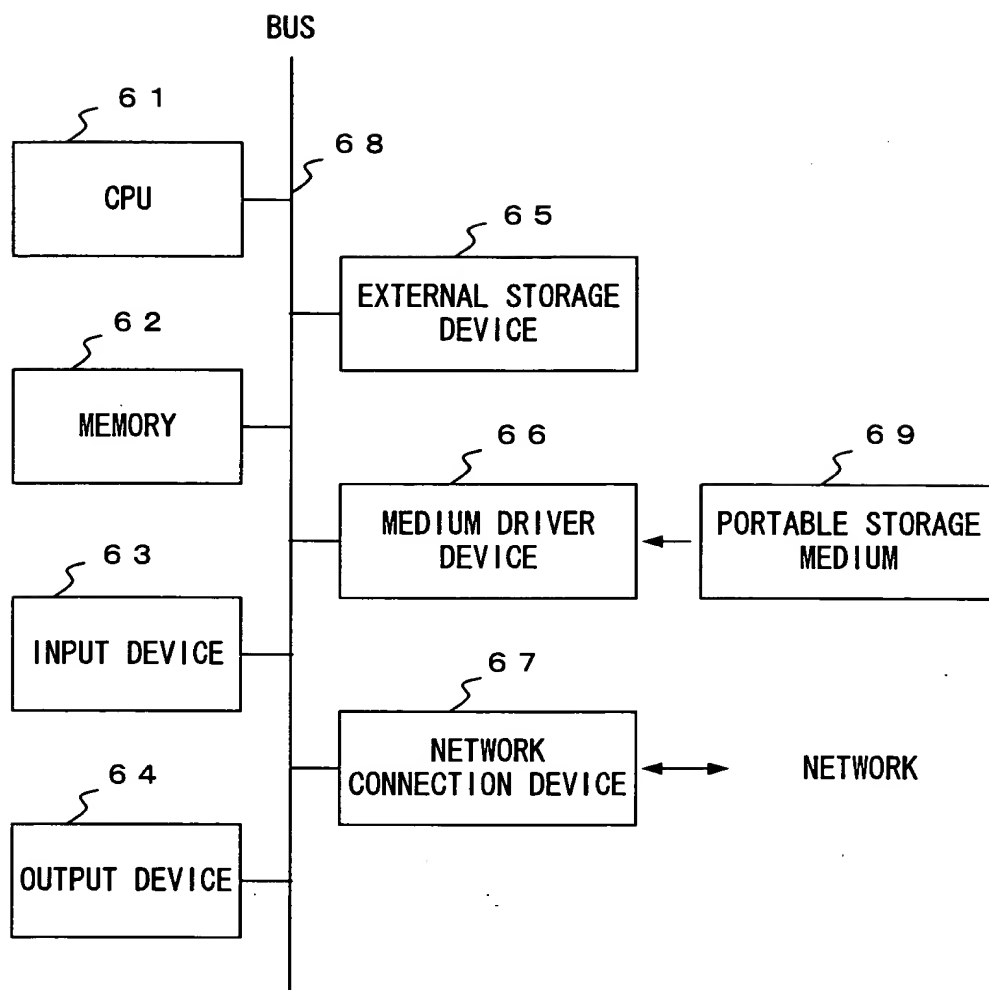


FIG. 22

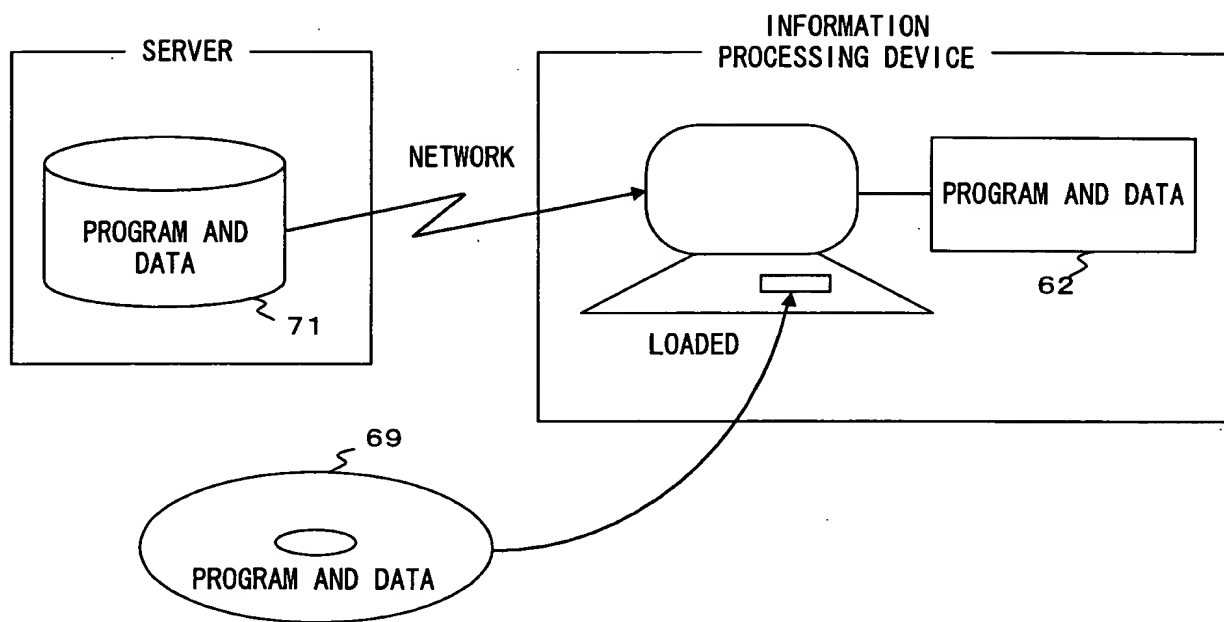


FIG. 23